404457 1 SHEET

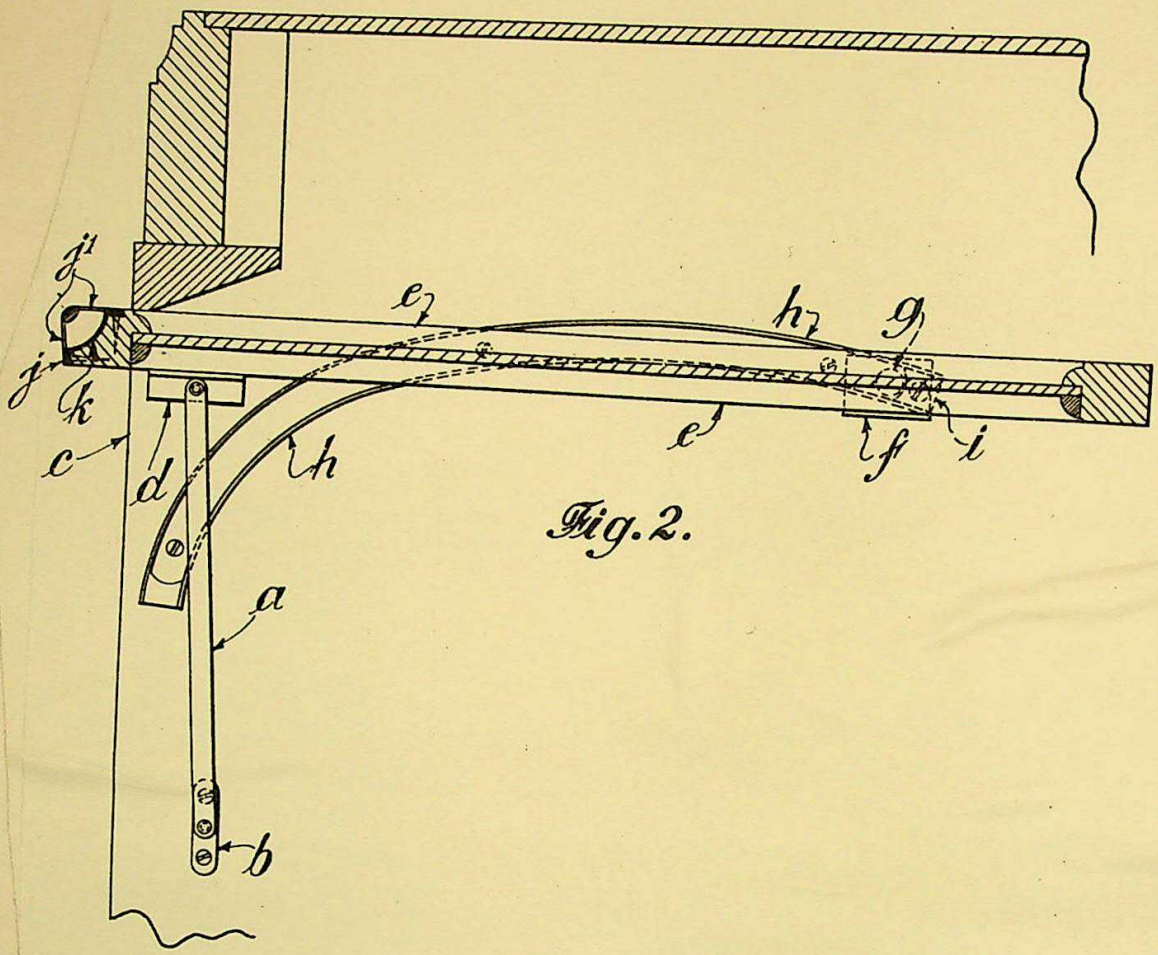

Fig. 2.

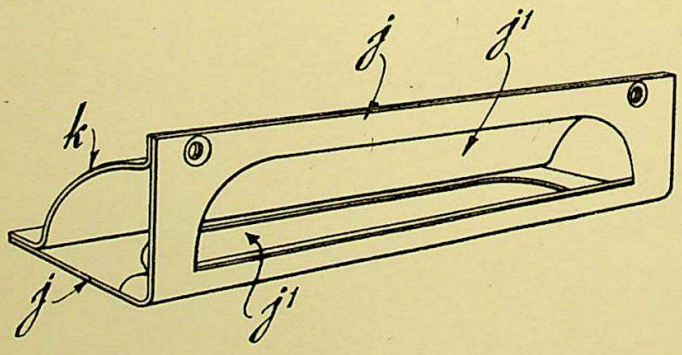

Fig. 4.

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PATENT SPECIFICATION

404,457

Application Date: Jan. 2, 1933. No. 19/33.

Complete Left: Feb. 21, 1933.

Complete Accepted: Jan. 18, 1934.

PROVISIONAL SPECIFICATION.

Improvements in and relating to Showcases, Bookcases and the like.

We, Co-Operative Wholesale Society Limited, a British Society registered under the Industrial and Provident Societies Acts, 1895 and 1913, of 1, Balloon Street, Manchester, Herbert Townley, British subject, of "Arnside", Park Road, Higher Crumpsall, Manchester, and Henry Muir Lane, British subject, of "Milverton", Southgate, Church Road, Urmston, Manchester, do hereby declare the nature of this invention to be as follows:—

This invention refers to showcases, bookcases, and like containers in which a front part is moved from a vertical "closed" position to a horizontal "open" position. The invention will be described as applied to a showcase.

In showcases of this kind as hitherto known, it has been necessary, in opening the front part or door, first to move it from the vertical to a horizontal position where it overhangs or projects from the case, and then to push it back into the case, but it is possible that the door may be only partly pushed back, and remaining horizontal, its projecting corners if unobserved are a source of danger.

The object of this invention is to provide a construction whereby the door must be either in the open or closed position, no intermediate position of rest being possible, and to provide a door which in the "open" position lies wholly within the case. A further object of the invention is to provide a single handle which serves the purpose of two handles, one for each extreme position of the door.

According to the invention, the lower part of the door is constrained by a radial member to move in an arcuate path between the "closed" and "open" positions, and guides are provided on the sides of the case in which run rollers on the sides of the door, to direct the top end of the door into the case as the arcuate movement of the lower end takes place.

The handle fitted to the lower part of the door, by which the said movements are effected may be of triangular section having two hollow sides lying in the front and end respectively of the lower bar of the door.

In one example of the invention, a radius arm is pivotally connected at one end to a bracket fixed on the inner side face of the case and at its other end to a small plate fixed to the end face of the door, the bracket and plate being so positioned that the lower edge of the door may move in an arcuate path from a vertical position at the lower part of the opening in the case to a horizontal position at the upper part of such opening. Also secured at each end of the door is a further bracket carrying a roller. This bracket is of L section, with a long and short web. The long web lies against the end face of the door and carries a fixed stud or screw on which is loosely mounted the roller. The short web lies against the rear face of the door to which it is secured by screws.

The said rollers lie within cam-shaped channel grooves of metal fixed on the inner walls of the case, the shape of the cam being plotted so that as the lower part of the door moves in its arcuate path, the upper part of the door (to which the rollers are attached) is directed towards the rear of the case. The rear end of the groove is lower than the central portion, and is closed by an adjustable stop.

In assembling the device, the metal grooves are first secured to the sides of the case, and the rollers to the ends of the door, the rollers are then led into the grooves from the rear, and the adjustable stop placed in position in the ends of the grooves to prevent the rollers again leaving the grooves.

With this arrangement, the door when unsupported by the user, at no time occupies a position of rest projecting out from the case, since it must fall by gravity either to the "closed" or "open" position.

In the lower front edge of the door is fitted a handle having a through opening from two sides at right-angles. When the door is closed, the opening in the front face of the handle serves as a finger hole, that in the lower face being inaccessible, whilst when the door is open the opening in the lower face serves as a

finger hole, that in the front face being inaccessible.

The handle comprises a metal plate bent to right-angled section, and a further plate secured to the webs so as to provide a triangular cross-section.

The metal parts will usually be bronzed or oxidised to give a clean rustless finish.

Dated this 31st day of December, 1932.

For the Applicants,
WILSON, GUNN & ELLIS,
Chartered Patent Agents,
55, Market Street, Manchester.

COMPLETE SPECIFICATION.

Improvements in and relating to Showcases, Bookcases and the like.

We, Co-Operative Wholesale Society Limited, a British Society registered under the Industrial and Provident Societies Acts, 1895 and 1913, of 1, Balloon Street, Manchester, Herbert Townley, British subject, of "Arnside", Park Road, Higher Crumpsall, Manchester, and Henry Muir Lane, British subject, of "Milverton", Southgate, Church Road, Urmston, Manchester, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention refers to showcases, bookcases, and like containers of the kind in which a front part is moved from a vertical "closed" position to a horizontal "open" position.

In the majority of showcases of this kind as hitherto known, it has been necessary, in opening the front part or door, first to move it from the vertical to a horizontal position where it overhangs or projects from the case, and then to push it back into the case, but it is possible that the door may be only partly pushed back, and remaining horizontal, its projecting corners if unobserved are a source of danger.

This invention, however, has for its object to provide a bookcase, showcase, or the like in which such objection is overcome, there being no intermediate position of rest for the door between the "closed" and "open" positions, the door tending by gravity to fall either to the "closed" or the "open" position. The door has projecting rollers at its ends which run in grooves in the inner side wall of the case or the like, to direct the door into the case as such arcuate movement takes place. A further object of the invention is to provide a single handle which serves the purpose of two handles, one for each extreme position of the door.

According to the invention, the showcase, bookcase or the like of the kind referred to, has the lower part of the door constrained by radial members to move in an arcuate path between the "closed" and "open" positions, and is characterised by attachable metal channels on the inner side walls of the case of a wholly curved form in elevation which is conjunction with the radial arms ensures of there being no intermediate position of rest for the door, the channels being closed at their rear ends by a removable stop as and for the purpose set forth. The door tends always to fall by gravity, either to the "closed" or the "open" position.

The handle fitted to the lower part of the door, by which the said movements are effected, may be of triangular section having two hollow sides lying in the front and end respectively of the door.

One form of the invention is illustrated in the accompanying drawing, wherein:—

Fig. 1 is a transverse section of the front part of a showcase with the door closed.

Fig. 2 is a similar view to Fig. 1, but with the door open.

Fig. 3 is an elevation of the inner side of one end of the door, and

Fig. 4 is a perspective view of the improved handle.

In the example illustrated, a radius arm *a* is pivotally connected at one end to a bracket *b* fixed on the inner side face *c* of the case, and at its other end to a small angle plate *d* fixed to the inner face of the door *e*, the bracket *b* and plate *d* being so positioned that the lower edge of the door may move in an arcuate path from the vertical position (shown in Fig. 1) at the lower part of the opening in the case to a horizontal position (shown in Fig. 2) at the upper part of such opening. Also secured at each end of the door is a further bracket *f* carrying a roller *g*. This bracket is of L section, with a long and short web. The long web lies

against the end face of the door and carries a fixed stud or screw f^1 on which is loosely mounted the roller g. The short web lies against the rear face of the door to which it is secured by screws (see Fig. 3).

The fittings are applied to both ends of the door, suitable changes for right and left hand being made where required.

The said rollers g lie within cam-shaped channels h of metal fixed on the inner walls c of the case, the shape of the cam being plotted so that as the lower part of the door moves in its arcuate path, the upper part of the door (to which the rollers are attached) is directed towards the rear of the case. The rear end of the channel is lower than the central portion, and is closed by an adjustable stop i.

In assembling the device, the metal channels h are first secured to the sides of the case, and the rollers g to the ends of the door; the rollers are then led into the channels from the rear, and the adjustable stop i placed in position in the ends of the channels to prevent the rollers again leaving the channels.

With this arrangement, the door when unsupported by the user, at no time occupies a position of rest projecting out from the case, since it must fall by gravity either to the "closed" or "open" position.

In some cases the radial arm a may be at one end of the door only, but the track h and roller g will be at both ends in every case.

In the lower front edge of the door is fitted a handle j having a through opening j^1 from two sides at right-angles, as shown in Fig. 4. When the door is closed, the opening in the front face of the handle serves as a finger hole, that in the lower face being inaccessible (see Fig. 1), whilst when the door is open the opening in the lower face serves as a finger hole, (see Fig. 2).

The handle comprises a metal plate j bent to right-angled or substantially right-angled section, and a further plate k secured to the webs so as to provide a triangular cross-section.

The metal parts will usually be bronzed or oxidised to give a clean rustless finish.

The invention is particularly applicable to showcases for shop-fittings, and renders itself to inexpensive and efficient adaptation to "batteries" of cases, each with its own door or closure window. Whilst shown as applied to a glazed door, the invention is equally suitable to panelled or other doors.

Attachable metal channels for guiding the upper parts of doors in bookcases and showcases of the kind referred to are known and no claim is made thereto per se. Further, it has been proposed in a Patent Specification of earlier date, but not published before the date of this Application, to provide a door or like closure for a showcase, etc., of the kind referred to, having its lower part constrained to an arcuate path by radial arms, and having its upper part guided by attachable metal channels on the side walls of the case, but the said channels have had an intermediate straight portion between downwardly curved end portions. No claim is made in this Application which includes any such form of channels.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A door or like closure for a showcase, bookcase or like article of the kind referred to, wherein the lower part of the door is constrained by radial members to move in an arcuate path between the "closed" and "open" positions, characterised by attachable metal channels on the inner side walls of the case, of a wholly curved form in elevation, which in conjunction with the radial arms ensures of there being no intermediate position of rest for the door, the channels being closed at their rear ends by a removable stop, as and for the purpose set forth.

2. A door or like closure as claimed in claim 1, characterised by a handle fitted in the front lower edge of the door having a part adapted for gripping by the fingers in each of two parts at right angles to each other.

3. A handle for a door as claimed in claim 2, comprising a metal plate bent at right angles or substantially at right angles with an aperture in each face, and a further plate connected across the angle and forming with the angled plate a through passage between the said apertures.

4. Door or like closures for showcases, bookcases, or the like, constructed, arranged and adapted for use substantially as herein described and illustrated.

5. A handle for door and like closures of the kind herein claimed, constructed and arranged substantially as herein described with reference to Fig. 4 of the accompanying drawings.

Dated this 13th day of February, 1933.

For the Applicants,
WILSON, GUNN & ELLIS,
Chartered Patent Agents,
55, Market Street, Manchester.

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